

# Personal Protective Equipment COVID-19

The Department of Safety and Professional Services

Law Enforcement Focused

March 27, 2020

# Objectives



Train the Trainer –use the Notes view to see the included commentary



COVID-19 as of March 18, 2020 – Law Enforcement PPE Recommendations



Provide information on the selection and use of PPE

# Resources

Need to check daily for updates

- [Wisconsin Department of Health Services - COVID-19: Health Care Providers](#)
- March 12, 2020: "Interim Guidance for Emergency Medical Services (EMS) Systems, Practitioners and Public Safety Answering Points (PSAPs) Regarding COVID-19" DPH Numbered Memo EMS 20-02

## COVID-19: Health Care Providers



Health care professionals are those responsible for treating and working with patients and families affected by COVID-19. This page houses information and resources for health care professionals responding to COVID-19.

🔍 Reporting and Surveillance Guidance	^
🔑 Testing Criteria for Patients Under Investigation	^
🏠 Isolation and Quarantine Guidance	^
📄 Memos Issued by DHS	^
🏢 Guidance for Long-Term Care Facilities	^
🦷 Dental Health Care Professionals Guidance	^
📋 Infection Preventionists	^
👤 Provider Resources	^
🌐 Preparedness Resources	^

# Resources

Need to check daily for updates

- [What Law Enforcement Personnel Need to Know about Coronavirus Disease 2019 \(COVID-19\)](#) CDC- CS315526-A - 03/16/2020

## What law enforcement personnel need to know about coronavirus disease 2019 (COVID-19)

**Coronavirus disease 2019 (COVID-19)** is a respiratory illness that can spread from person to person. The outbreak first started in China, but cases have been identified in a growing number of other areas, including the United States.

**Patients with COVID-19** have had mild to severe respiratory illness.

- Data suggests that symptoms may appear in as few as 2 days or as long as 14 days after exposure to the virus that causes COVID-19.
- Symptoms can include fever, cough, difficulty breathing, and shortness of breath.
- The virus causing COVID-19 is called SARS-CoV-2. It is thought to spread mainly from person-to-person via respiratory droplets among close contacts. Respiratory droplets are produced when an infected person coughs or sneezes and can land in the mouths or noses, or possibly be inhaled into the lungs, of people who are nearby.

# Law Enforcement Guidance

- Law enforcement who must make contact with individuals confirmed or suspected to have COVID-19 should follow CDC's Interim Guidance for EMS. (DPH Memo 20-02)
- Gloves
- Coveralls
- Respirators/masks
- Face shields/safety glasses
- Goggles
- Different styles of PPE may be necessary based on duty gear

# Personal Protective Equipment (PPE)

- Gloves – protect hands
- Coveralls – protect skin and/or clothing
- Respirators/masks – protect mouth/nose
- Respirators protect respiratory tract from airborne infectious agents
- Face shields - protect face, mouth noise and eyes
  - Safety Glasses or goggles must be worn under a face shield
- Goggles – protect eyes from liquid and particles
- Safety glasses – protect eyes from particles

## Factors Influencing PPE Selection

- Type of exposure anticipated
  - Splash/spray versus touch
  - Category of precaution, low risk versus high risk
- Durability and appropriateness of the PPE for the task
- Fit, will PPE create a different risk

# Gloves

- Limited/no protection when heavily soiled, torn or have holes
- Avoid “touch contamination”
  - Don’t’ touch your face or adjust PPE with contaminated gloves
  - Don’t’ touch other surfaces except as necessary
- Change Gloves
  - During use if torn and when heavily soiled
  - When contamination event is over, don’t begin another task until you have decontaminated
- Discard gloves in appropriate receptacle
- Never re-use disposable gloves even if you think that they are clean



# Coveralls

- Used to protect skin and/or clothing
- Disposable
- Resistant to fluid penetration, but not impervious

# Eye and Face Protection

## Eye

- Goggles, should fit snugly over and around eyes
  - Used for liquid splashes and/or particles
- Safety glasses, used for protection against particles

## Face

- Face shields protect face, nose, mouth and eyes
- Should cover forehead, extend below chin and wrap around side of face
- Goggles or safety glasses need to be worn under a face shield

# Respiratory Protection

- Protects against inhalation of harmful materials
  - Protection is based on the type of respirator selected and the type of cartridges/filters if applicable
  - Protection is also based on the respirator being worn as instructed by the manufacturer
    - Initial fit testing to ensure ability to obtain a face “seal”
    - User seal check (fit check) every time before use to ensure a face seal

# Respirator vs. Mask



**N95 Respirator**

## Respirator - N95

- Evaluated, tested and approved by NIOSH
- Reduces wearer's exposure to particles including small particle aerosols and large droplets
- Tight fitting face seal
- Fit testing required
- User seal check required each time respirator is put on
- Filters out at least 95% of airborne particles including large and small particles
- When properly fitted and worn, minimal leakage occurs around respirator edges when user inhales
- Single use, or replacement if damaged, deformed or soiled



**Surgical Mask**

## Mask

- Cleared by the U.S. Food and Drug Administration
- Fluid resistant and provides the wearer protection against large droplets, splashes, or sprays of bodily or other hazardous fluids. Protects the patient from the wearer's respiratory emissions.
- Loose-fitting
- No fit test required
- No user seal check required
- Does NOT provide the wearer with a reliable level of protection from inhaling smaller airborne particles and is not considered respiratory protection
- Leakage occurs around the edge of the mask when the user inhales
- Disposable

# Particulate Respirator Options

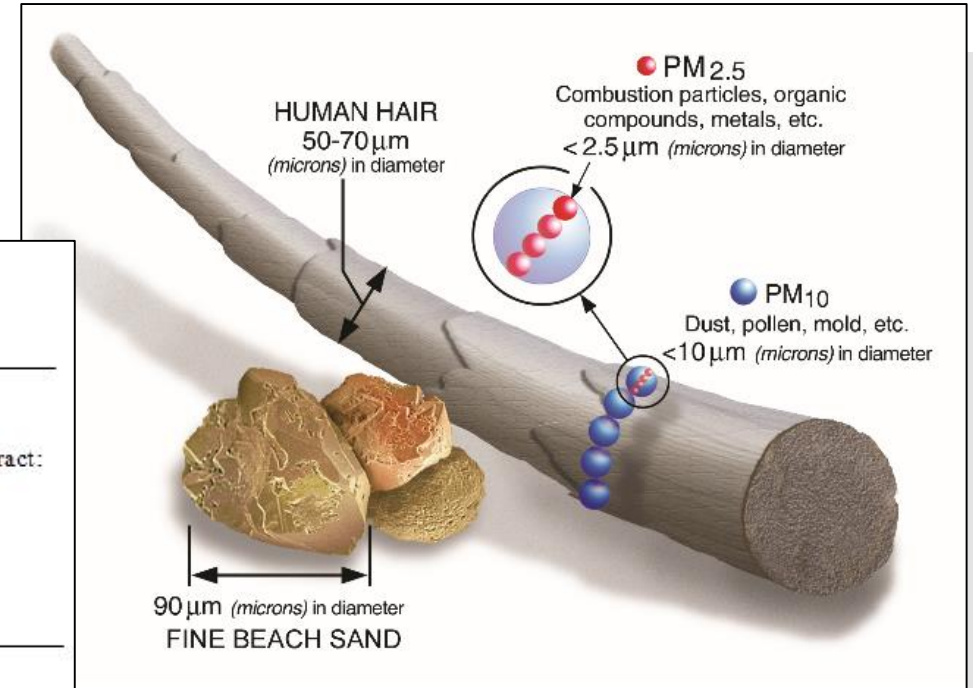
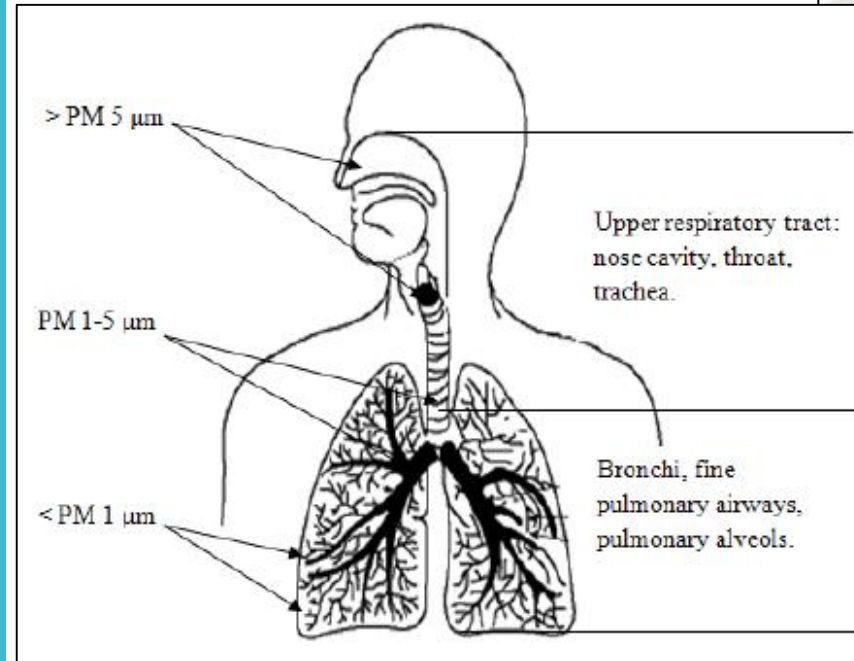
Percentage of 0.3  $\mu\text{m}$  airborne particles filtered out

- 95
- 99
- 100

Resistance to Oil

- N – not resistant to oil
- R – somewhat resistant to oil
- P – strongly resistant to oil

0.3  $\mu\text{m}$ ??



Particles ranging from 0.3 to 0.9 micron present the greatest health concern because they are small enough to get past the tiny hairs that line our breathing passages and are too large to be easily exhaled.

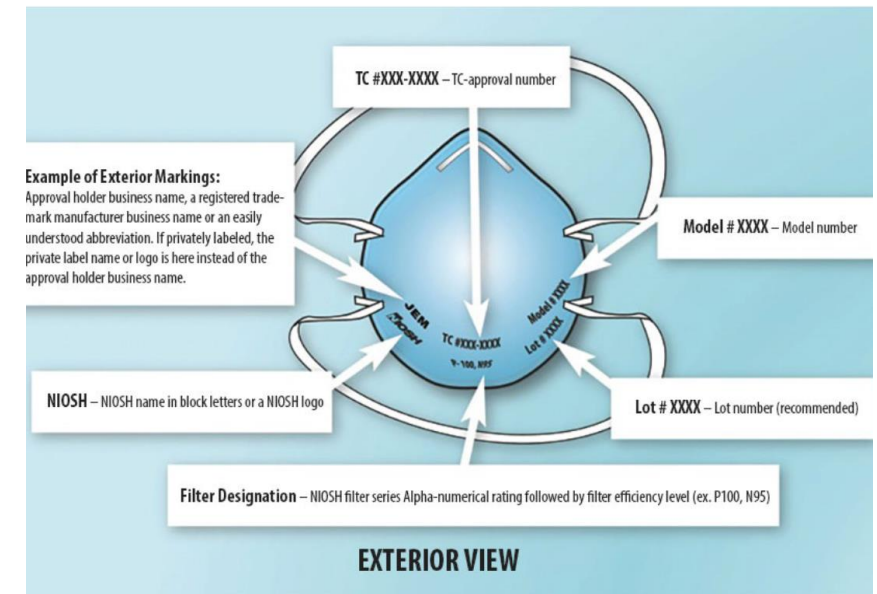


# Translation

A P100 respirator is resistant to oil and filters out 99.97% of particles  $0.3\text{ }\mu\text{m}$  or larger in size

## Respirators, cont.

- Must be NIOSH certified
- Beware of fraudulent respirators







Medical Evaluation - questionnaire



Training



Fit Testing



Seal check (Fit check) before each use



Written respiratory protection program

Respirators  
Require:

# How to safely put on, use and remove PPE

## Key Points About PPE

- Put on before potential incident
- Use carefully – don't spread contamination, e.g. touching surfaces with contaminated gloves
- Remove and discard carefully, contaminated PPE is a source of exposure to you
- Immediately wash your hands and/or body parts as applicable to your situation

## Example Sequence for Putting on PPE

1. Coveralls
2. Respirator
3. Goggles
4. Face shield
5. Gloves

# Coveralls

- Select appropriate size
- Fully zip up
- Remove immediately if become soiled



# Respirator

- Use the same model/size respirator that you have been fit tested for
- Follow Manufacturer's instructions for putting on
- Perform a user seal check (fit check) EVERY TIME you put on the respirator
  - The respirator manufacturer's instructions will tell you how to perform this check

# Sperian P100

## How to Don and Fit Check Your Sperian® Filtering Facepiece Respirator

### How to Don the Respirator

Follow these instructions each time respirator is worn.



**STEP 1**

Cup the respirator in the hand, allowing the head straps to hang freely.



**STEPS 2**

Hold the respirator under the chin with the nosepiece facing outwards.



**STEP 3**

Place the lower head strap around the neck below the ears.



**STEP 4**

Holding the respirator against the face with one hand, place the top head strap above the ears, around the crown of the head.



**STEP 5**

Respirators with adjustable head-straps only: adjust tension by pulling head-straps with both hands (tension may be decreased by pushing out on the back of the buckle).



**STEP 6**

Mold the nose area to the shape of the face, running the fingertips of both hands from the top of the nosepiece down both sides while pressing inward. Always use both hands.

# Sperian P100

DUPLICATE

USE WITH INSTRUCTIONS

## Fit Check the Face-Seal as Follows:



FIT CHECKING

- Place both hands over the respirator without disturbing its position.
- If the respirator is not fitted with an exhalation valve, exhale sharply (a positive pressure should be felt inside the respirator).
- If the respirator is fitted with an exhalation valve, inhale sharply (a negative pressure should be felt inside the respirator).
- If you detect air-leaks, readjust the head straps and/or the nose-piece.

## Use Limitations:

1. **DO NOT** use the respirator or enter or stay in a contaminated area under the following circumstances:
  - Atmosphere contains less than 19.5% oxygen
  - Atmosphere contains oil aerosols if using N protection class respirator
  - For protection against gases or vapors
  - Contaminants or their concentrations are unknown or immediately dangerous to life or health
  - Concentrations or contaminants exceed maximum use concentrations in applicable OSHA standards or applicable government regulations or 10 times the PEL (Permissible Exposure Limit), whichever is lower
  - For sandblasting, paint-spray operations, asbestos
2. **DO NOT** modify or misuse the respirator.
3. **DO NOT** use the respirator with beards or other facial hair that interferes with direct contact between the face and the edge of the respirator, or any other conditions that may prevent a good face-seal.
4. Some of these respirators offer relief from the irritating effects of gases/vapors at nuisance levels (i.e. levels less than the OSHA PEL). Respirators against **nuisance odors/organic vapors** are so designated by the mark "OV" on the respirator's packaging and/or on the respirator. Respirators against **nuisance acid gases** (e.g. Hydrogen fluoride, Chlorine) are so designated by the mark "AG" on the respirator's packaging and/or on the respirator. **DO NOT use if levels exceed the PEL.**

## Warning

This respirator helps protect against certain contaminants. It may not eliminate the risk of contracting disease or infection. Misuse may result in sickness or death.

Materials which may come into contact with the wearer's skin could cause allergic reactions to susceptible individuals.



**Fitting Instructions:** Must be followed each time respirator is worn.



1. Cup the respirator in your hand, with the nosepiece at your fingertips, allowing the headbands to hang freely below your hand.
2. Position the respirator under your chin with the nosepiece up. Pull the top strap over your head resting it high at the top back of your head. Pull the bottom strap over your head and position it around the neck below the ears. Make certain hair, facial hair, jewelry and clothing are not between your face and the respirator as they will interfere with fit.
3. Place your fingertips from both hands at the top of the metal nosepiece. Using two hands, mold the nose area to the shape of your nose by pushing inward while moving your fingertips down both sides of the nosepiece.

**⚠ Pinching the nosepiece using one hand may result in improper fit and less effective respirator performance (Use two hands).**

4. Perform a User Seal Check. To check the respirator-to-face seal, place both hands completely over the respirator and exhale. Be careful not to disturb the position of the respirator. If air leaks around nose, readjust the nosepiece as described in step 3. If air leaks around the respirator edges, adjust position of straps and make certain respirator edges fit snugly against the face. **If you CANNOT achieve a proper seal, DO NOT enter the contaminated area. See your supervisor.**

# 3M

## Health Care Particulate Respirator and Surgical Mask 1860/1860S

### *User Instructions*

**IMPORTANT:** Keep these *User Instructions* for reference.

### **⚠ WARNING**

This respirator helps protect against certain particulate contaminants but does not eliminate exposure to or the risk of contracting any disease or infection. **Misuse may result in sickness or death.** For proper use, see supervisor, or *User Instructions*, or call 3M Health Care Helpline at 1-800-228-3957. In Canada, call 3M Helpline at 1-800-563-2921.

# Putting On Eye and Face Protection

## Eye

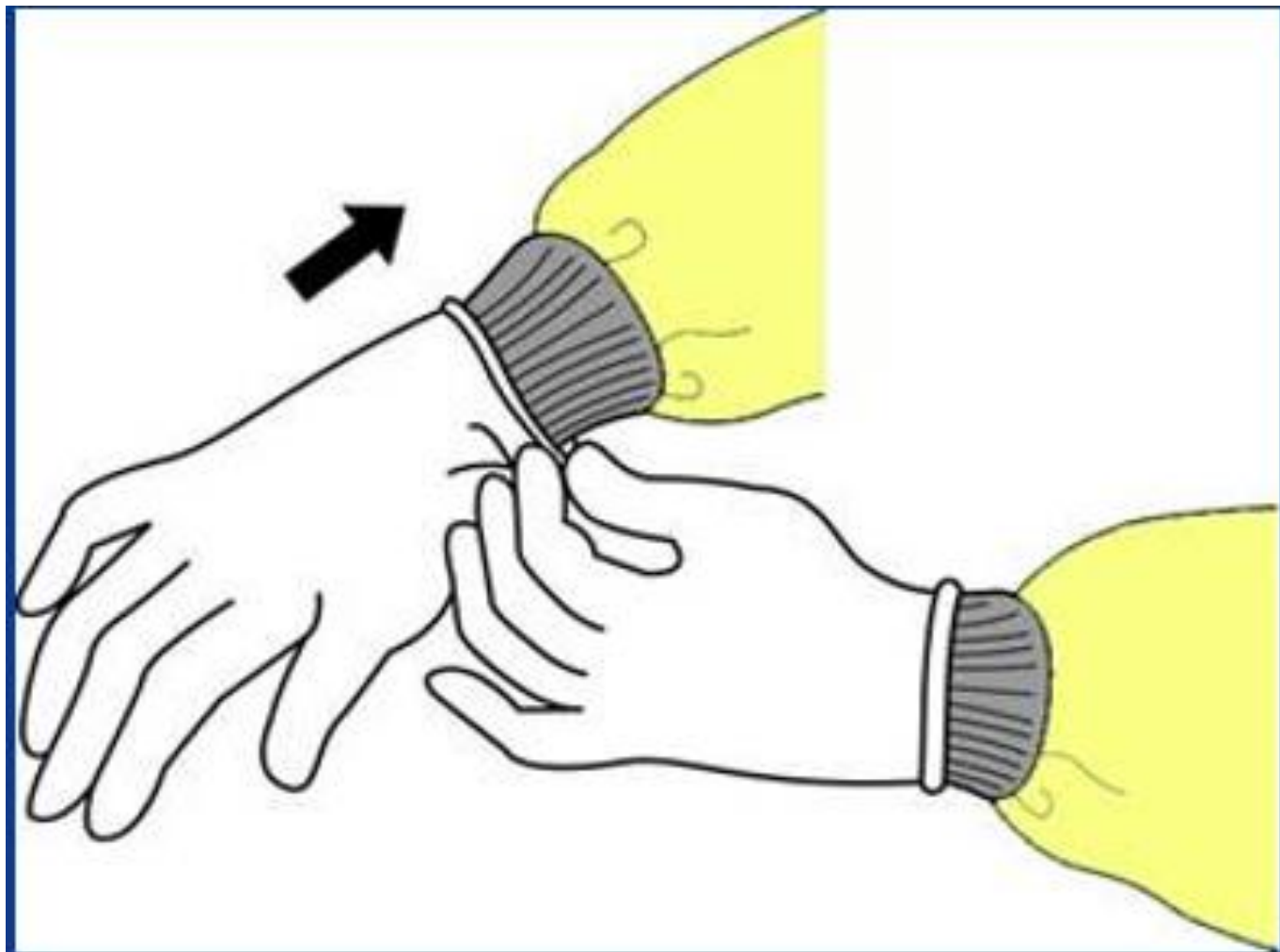
- Position goggles or glasses over eyes and secure to your head using earpieces or headband



## Face Shield

- Position face shield over face and secure on brow with headband
- Adjust to fit comfortably





## Putting on Gloves

Put on gloves last

Select correct type and size

Insert hands into gloves

Extend gloves over arm protection cuff if present or under coverall arm sleeve

## How to Safely Use PPE

- Keep gloved hands away from your face
- Avoid touching or adjusting other PPE
- Remove gloves if they become torn, perform hand washing before putting on new gloves
- Limit surfaces and items touched

## Contaminated and Clean Areas of PPE

### Contaminated – Outside Front

- Areas of PPE that have or are likely to have been in contact with body sites, materials or environmental surfaces where the infectious organism may reside

### Clean - Inside

- Areas of PPE that are not likely to have been in contact with the infectious organism

## Sequence for Removing PPE

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Coveralls

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Gloves

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Face shield, goggles, safety glasses

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Respirator



Outside of area



Ensure that hand washing  
facilities are available at point of  
removal

## Where to Remove PPE

Bring a garbage bag for PPE disposal



## If Hand Washing Facilities Are Not Available

- If soap and water are not readily available and illicit drugs are NOT suspected to be present, use an alcohol-based hand sanitizer with at least 60% alcohol



## Order of Removing PPE

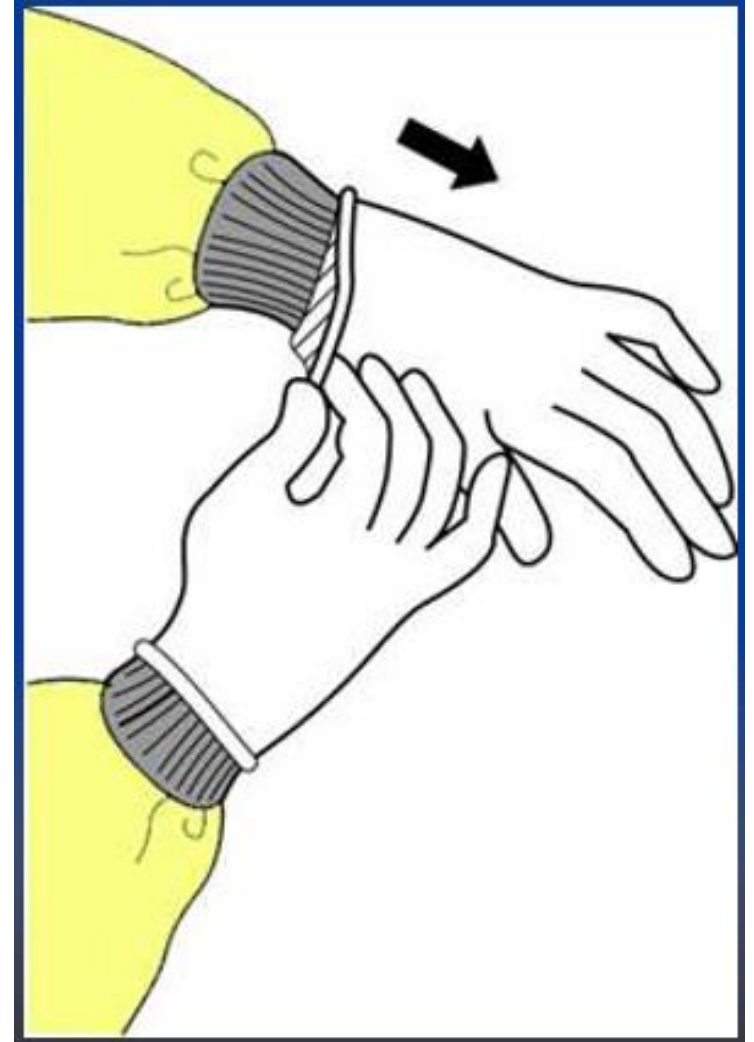
1. Coveralls
2. Gloves  
**Wash Hands**
3. Face Shield/Eye Protection
4. Respirator  
**Wash Hands**

## Removing Coveralls

- Unzip coveralls
- Remove arms from sleeves
- Roll down, so clean inside is facing outward
- Discard

## Removing Gloves

- Grasp outside edge near wrist
- Peel away from hand, turning glove inside-out
- Hold in opposite gloved hand

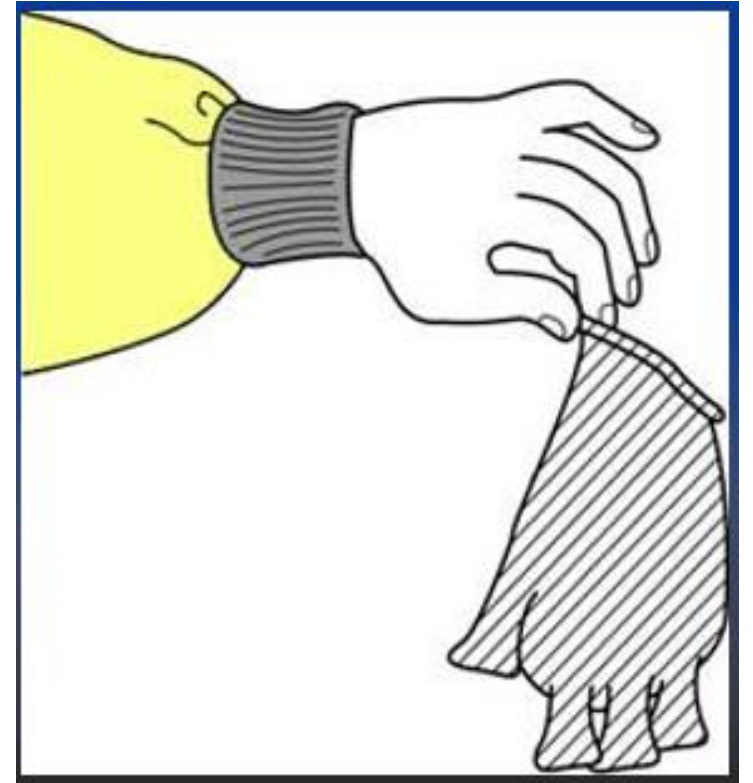
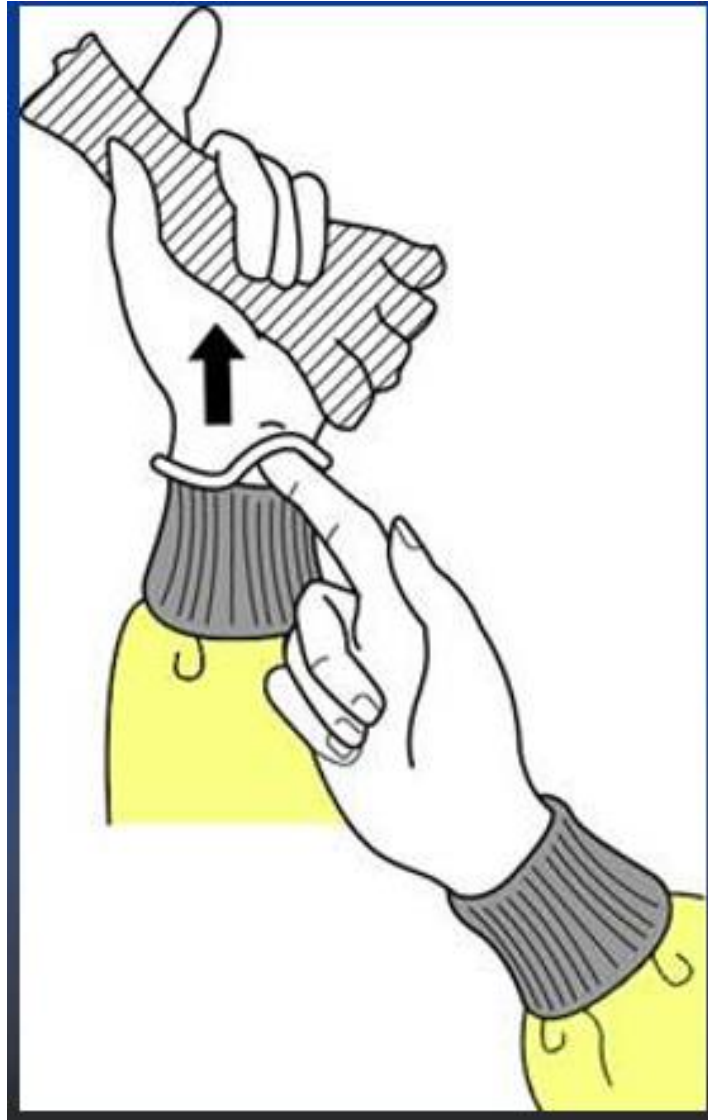


## Removing Gloves, cont.

Slide ungloved finger under the wrist of the remaining glove

Peel off from inside, creating a bag for both gloves

Discard gloves



# Remove Goggles or Face Shield

- Grasp ear or head pieces with ungloved hands
- Lift away from face
- Place in designated receptacle for reprocessing or disposal



## Removing Respirator

- DO NOT TOUCH the front of the respirator – it may be contaminated

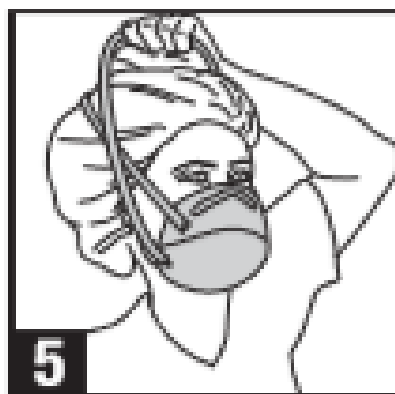


## Removing Respirator, cont.

- Without touching the respirator - Remove by pulling the bottom strap over the back of your head, followed by the top strap
- Discard respirator
- **WASH YOUR HANDS**



## Removal Instructions:



1. Without touching the respirator, *slowly* lift the bottom strap from around your neck up and over your head. Then lift off the top strap. Store or discard according to your facility's infection control policy. Dispose of used product in accordance with applicable regulations.

## Storage Conditions and Shelf Life:

Before use, store respirators in the original packaging, away from contaminated areas, dust, sunlight, extreme temperatures, excessive moisture and damaging chemicals. When stored in original packaging between temperatures from -4°F (-20°C) to +86°F (+30°C) and not exceeding 80% RH, the product may be used until the date specified on packaging located next to the "Use by Date" symbol.



# Hand Hygiene

- Perform hand hygiene immediately after removing PPE
  - If hands become visibly contaminated during PPE removal, wash hands before continuing to remove PPE
- Wash hands with soap and water or use an alcohol-based hand sanitizer with at least 60% alcohol

# Respirator Fit Test vs. User Seal Check

## Fit Testing Is Performed:

- After medical clearance and training
- Before respirator is used in the field
- Annually
- Whenever:
  - Weight gain/loss
  - Facial scarring
  - Dental changes
  - Cosmetic surgery

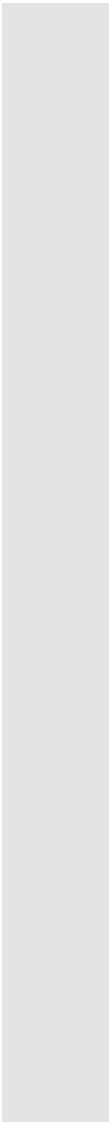
## User Seal Check (Fit Check) Is Performed By The User

- Every time respirator is worn
  - The respirator manufacturer's instructions will tell you how to perform this check



## Basic Disinfecting Guidelines

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- Air out vehicle/area if possible
  - PPE – required to be listed on label or product sheet
  - EPA N List
    - FOLLOW directions
    - Contact times must be followed for disinfection to occur
    - Clean before disinfect, remove visible dirt/debris
  - Adequate ventilation when using disinfectant
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# Resources

- [Wisconsin Department of Health Services - COVID-19: Health Care Providers](#)
- [What Law Enforcement Personnel Need to Know about Coronavirus Disease 2019 \(COVID-19\)](#)
- [OSHA "Respiratory Protection in General Industry"](#), 10-minute video that can be used to provide basic respiratory protection training – [workplace specific training must also be provided to employees](#)
- [OSHA Respiratory Fit Testing](#), 12-minute video on fit testing that can be used to provide basic respiratory protection training – [workplace specific training must also be provided to employees](#)
- [CDC/NIOSH - Understanding the Difference Between Surgical Masks and N95 Respirators](#)
- [CDC/NIOSH - Required Labeling of NIOSH-Approved N95 Filtering Facepiece Respirators](#)
- [Template Written Respiratory Protection Program](#) provides a basic template that needs to be modified to reflect your program/practices
- [Respiratory Protection Checklists](#), provides checklists for the different aspects of a respiratory protection program

# Examples of Fit Testing Products

- [3M Quick Reference Guide: Qualitative Fit Testing](#), if you are using another brand of a fit testing kit, you must refer to that manufacturer's fit testing kit instructions
- [Moldex Qualitative Fit Test Kit](#)

# Questions?

[DSPSSBHealthandSafetyTech@wi.gov](mailto:DSPSSBHealthandSafetyTech@wi.gov)

Or contact your District Occupational Safety and Health Inspector:

[Public Sector District Safety Inspectors](#)

